

REMARKS

Applicant respectfully requests reconsideration of the subject application in view of the amendments and remarks set forth herein. Applicant notes that attached to this amendment is a request to Change Attorney Docket Number. Applicant further notes that the Examiner, in rejecting the claims under 35 U.S.C. 112, 2nd paragraph, suggests that the claims appear to be a literal translation into English from a foreign document. Applicant respectfully submits the application was drafted in English in Australia, as was the complete specification for the PCT application.

1. Objections to the Drawings

The Examiner has objected to the drawings for allegedly failing to show every feature of the invention specified in the claims. (See e.g., paragraph 2 of the Office Action.) Particularly, the Examiner states, “the ‘shower head’ of claim 7, the ‘plurality of inlets’ in claim 8 must be shown or the feature(s) canceled from the claim(s).” Applicant has amended claim 7 to recite the subject matter referenced by the Examiner directed to a “plurality of inlets” and claim 8 is amended to depend from claim 7 reciting the subject matter directed to a “shower head”. Applicant further amends Figures 5, 6 and 8 by way of the attached replacement sheets and annotated sheets to more clearly illustrate the subject matter of the present disclosure. Particularly, Applicant has set forth additional reference numerals (20) in Figure 5, 6 and 8 to clearly illustrate to the Examiner that the present disclosure illustrates embodiments having a plurality of apertures (20), each aperture (20) is associated with an inlet (11) thereby illustrating a plurality of inlets as recited by amended claim 7. (See Fig. 8, and specification, page 8, lines 3-5, “However, a portion of the flow as it passes through *the eight apertures 20* associated with *inlet ports 11* is urged circumferentially into the annular gap 13 between disc 9 and shower housing 15a or 15b.”) (*Emphasis Added.*)

A plurality of inlets (11) is shown in the original drawings as filed, particularly with reference to Figure 8, however, to more clearly illustrate to the Examiner that the drawings illustrate every feature of the invention specified in the claims, the amendments to the drawings are made to include referencing each aperture (20) associated with an inlet (11).

Referring to amended claim 8 reciting at least in part “a shower head,” Applicant respectfully submits that the specification including the drawings fully support this claim recitation. In particular, the specification refers to several embodiments illustrated by the drawings as being a “shower head” in an exemplary embodiment. Applicant respectfully directs the Examiner to view Figures 5 and 6 in light of the description found on page 7 of the specification which states, “FIGS. 5 and 6 depict second and third embodiments of a *“shower head”* apparatus for regulating fluid flow through a spray nozzle that produce the primary lower layer 16 and secondary upper layer 17 flow conditions described with reference to the first embodiment of the invention shown in FIG. 4. FIG. 5 depicts a *shower head* having a “fixed volume” circular chamber 1a, whilst FIG. 6 depicts a *shower head* having a “variable volume” circular chamber 1b.” (*Emphasis Added.*)

Applicant respectfully submits that the drawings in view of the specification are sufficient to enable one having ordinary skill in the art to fully understand and appreciate that the apparatus associated with the present disclosure, at least in one embodiment, is a “shower head” as described at least by the passage cited above and in view of at least Figures 5 and 6

Accordingly, Applicant respectfully submits that the objections set forth by the Examiner in his Office Action directed to the drawings have been traversed and the amended drawings should be promptly accepted by the Examiner. Attached are two sets of amended drawings, a first set of drawings titled “Replacement Sheets” showing clean versions of the amended Figures

5, 6 and 8 and a second set of amended drawings titled "Annotated Sheets" showing a marked-up version of the amended Figures 5, 6 and 8. Applicant respectfully submits that no new matter is introduced by way of the foregoing drawing amendments.

2. Claim Amendments

Applicant respectfully submits that no new matter is introduced by way of the foregoing claim amendments. Independent claim 1 has been amended to more clearly recite the subject matter of the present disclosure. Dependent claims 5, 7 and 8 have been amended to correct for informalities raised by the Examiner in rejecting the claims under 35 U.S.C. section 112, 2nd paragraph, which will be discussed in greater detail below. Prompt entry of the proposed claim amendments is respectfully requested.

3. 35 USC § 112, 2nd paragraph Rejections

The Examiner rejects claims 1-11 under 35 U.S.C. § 112, 2nd paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. (See paragraph 4 of the Office Action.) Particularly, the Examiner sets forth:

"The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document. The claim appear to be a list of the elements of the invention without a clear explanation of each element's placement. Applicant is advised to completely review the claims for errors. For example: in claim 5, Applicant fails to properly disclose 'the narrow gap is variable by movement of the disc'; in claim 7 Applicant fails to properly disclose 'a plurality of inlets'."

Applicant respectfully traverses the rejection. Claim 1 is amended to include element reference letters (a)-(f) to more clearly recite the subject matter associated with claim 1 and respond to the Examiner's concern regarding the claims being "generally narrative and indefinite". Moreover, claim 1 is amended to illustrate each element of the claim and clearly recite at least in part the interaction between the two layers in stating, "in a non-destructive manner from peripheral side wall to said outlet." Applicant believes that each element associated with Claim 1 would be clearly understood with regard to "placement" as the Examiner asserts to one having ordinary skill in the art.

Claim 5 is amended to address the Examiner's rejection for failing to disclose "the narrow gap is variable by movement of the disc." Amended claim 5 recites at least in pertinent part, "said narrow gap is ~~variable~~ adjustably varied by movement of said disc relative to said spray nozzle housing along said centrally located housing." Applicant believes that this amendment sufficiently addresses the Examiner's rejection and concern regarding the subject matter associated with claim 5.

Claim 7 is amended to address the Examiner's rejection for failing to disclose "a plurality of inlets". Amended claim 7 recites at least in pertinent part, "wherein said ~~apparatus is a shower head~~ at least first inlet is a plurality of inlets." Applicant believes that this amendment sufficiently addresses the Examiner's rejection and concern regarding the disclosure associated with claim 5. In addition, claim 8 has been amended to be dependent upon claim 7 and directed to the subject matter previously claimed in original claim 7 for an embodiment of the apparatus being a "shower head".

Accordingly, Claims 1, 5, 7 and 8 have been amended to more clearly recite the subject matter of the present disclosure and address the formalities raised by the Examiner in his Office

Action. Applicant respectfully submits that at least for these foregoing reasons, the rejections under 35 U.S.C. §112, second paragraph should be withdrawn.

4. 35 USC § 102(b) Rejections

The outstanding Office Action sets forth rejections under 35 USC § 102(b) as follows:

Claims 1-4, 6, 9 and 11 are rejected under 35 USC § 102(b) as being anticipated by Perera (US 5,197,517) as best understood by the Examiner.

In view of amended independent claim 1, applicant respectfully traverses the Section 102(b) rejections. Reconsideration of the foregoing Section 102 rejections is respectfully requested.

According to the MPEP, “[t]o anticipate a claim, the reference must teach every element of the claim.” (See, e.g., MPEP § 2130.) “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). (See e.g., MPEP §2130.)

With reference to the amendments and remarks set forth herein, Perera fails to anticipate the present application because it does not describe “each and every element” of the applicant’s claim. Indeed, Perera does not teach or suggest “at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis, said primary lower layer and said secondary upper layer interact and support each other in a non-destructive manner from peripheral side wall to said outlet,” as recited in amended claim 1.

Applicant respectfully submits that the Examiner does not appreciate at least the following key elements recited in claim 1 as amended namely “at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis,”

and “said primary lower layer and said secondary upper layer interact and support each other in a non-destructive manner from peripheral side wall to said outlet”. The applicant submits that support for the amendment is found in the specification with particular reference to a description of Fig. 4 at page 6, last paragraph through to page 7.

Referring to a distinguishing element reciting at least in part in claim 1, “at least one secondary upper layer that substantially follows a second flow path radially inwardly towards said central axis,” the applicant emphasizes that the flow path is directed towards said central axis. Accordingly, the output of flow associated with amended claim 1 of the application is centralized passing through a single outlet as clearly recited by the terms “second flow path radially inwardly towards said central axis.” This particular recitation in the claim distinguishes over the Perera patent in that Perera teaches a flow path beginning in a central aperture 3 (an inlet) and continuing towards an outlet duct 19 that extends radially from the groove 17 to the edge of the substrate. (See e.g., col. 1, line 47-56.)

Thus, the Perera patent fails to teach or suggest an placement of an outlet anywhere on the apparatus associated with the embodiments disclosed in the Perera patent anywhere other than on a peripheral side wall. It is a further distinguishing element that the placement of the outlet associated with Applicant’s amended claim 1 exists through one of said end walls not through an outlet duct 19 exiting through a side wall substrate 15 as shown in Figure 4 of the Perera patent. Accordingly, at least for these foregoing reasons, the Perera patent fails to anticipate claim 1.

It is a further distinguishing aspect of the present disclosure that the Perera patent fails to teach and/or suggest, “said primary lower layer and said secondary upper layer interact and support each other in a non-destructive manner from peripheral side wall to said outlet,” as

claimed by the Applicant in amended claim 1 of the application. As can be seen in Fig. 4 of the Applicant's disclosure, the "primary lower layer" enters the chamber 1 from an inlet that is tangential to peripheral side wall 3 (outer perimeter) to create a vortex motion towards the center. The secondary upper layer 17 enters the chamber 1 from an inlet that is perpendicular and its direction of flow is radial. Please note that the arrows 16 represent the primary lower layer in Fig. 4 which are clearly tangential and the arrows 17 represent the secondary upper layer and are clearly radial. As clearly stated in the description, the primary lower layer 16 and the secondary upper layer 17 interact (mix) and support each other from the perimeter (side wall 3) to the central outlet 4 (recited in amended claim 1 as "support each other in a non-destructive manner from peripheral side wall to said outlet." The presence of these upper and lower layers do not break up the motion and effects of the vortex, but rather enlarge and heighten the effect of the vortex as the fluid moves towards the central axis (outlet 4).

Although the Perera patent describes an embodiment such that the vortex is increased by injection of a control fluid through the control duct, the flow pattern moves towards the peripheral edge exiting the apparatus through flow path 19 on the peripheral side of substrate 15. The Perera patent fails to disclose supporting a vortex to enhance pressure and flow towards the central axis as recited in claim 1 of the present application. Indeed, the flow path disclosed and taught by the Perera patent teaches away from increasing flow towards a central output in that all of the embodiments disclosed in the Perera Patent describe an output existing on a peripheral side wall. Moreover, the intended purpose of the control duct associated with the Perera patent is to prevent flow from exiting central input aperture 3 as clearly recited in column 2, lines 5-7, stating at least in part, "[a] vortex will therefore be produced in the recess, and the fluid will not pass out of the aperture 3." Thus, the Perera patent teaches away from a centralized output

positioning. Accordingly, at least for these foregoing reasons, the Perera patent fails to anticipate amended claim 1 of the application.

For at least the foregoing reasons discussed hereinabove, Applicant respectfully submits that independent claim 1 as amended patentably distinguishes over the Perera patent. Claims 2-11 are dependent upon claims 1 and thus should be allowable as being dependent upon allowable claims.

5. 35 USC § 103(a) Rejections

The outstanding Office Action sets forth rejections under 35 USC § 103(a) as follows:

Claim 7 is rejected under 35 USC § 103(a) as being unpatentable over Perera in view of Jacob et al. (US 5,054,474); and

Claim 10 is rejected under 35 USC § 103(a) as being unpatentable over Perera in view of Hunter et al. (US 3,070,317.)

Please note that claim 7 has been amended to include at least in part a “plurality of inlets” as was previously recited in original claim 8. Accordingly, amended claim 7 would be outside the scope of these references as the Examiner has not rejected original claim 8 in view of these references. Moreover, claim 8 as amended herein now depends from claim 7 and recites the subject matter directed to original claim 7 reciting at least in part that the apparatus is a “shower head”. Accordingly, the section 103 rejections set forth by the Examiner directed to claim 7 in the original application are no longer applicable since both claim 7 and 8 as amended include a plurality of inlets. Furthermore, as discussed herein above directed to distinguishing independent claim 1 which claims 7 and 8 directly and indirectly depend from, the Perera patent fails to anticipate each element of claim 1.

Amended claims 7 and 8 and original claim 10 are dependent upon independent claim 1. In view of the amendment to claim 1 and the remarks set forth herein for claim 1, the rejections to claims 7 and 10 should be rendered moot since claim 1 should be allowable and thus claims 7, 8 and 10 should be allowable as being dependent upon allowable claims. Moreover, the Perera patent alone or in combination with the above cited references fail to teach and/or suggest each of the elements of claim 1 thus failing to render claim 1 obvious as presented by the Examiner in the Office Action.



6. Conclusion

In view of the above mentioned amendments and remarks, it is respectfully submitted that the claim rejections under Section 112, 2nd paragraph, 102(b) and 103(a) are now traversed and should be withdrawn.

Applicant respectfully submits that all claims are in condition for allowance. Early and favorable action is earnestly solicited. If the Examiner believes that a telephone conversation may be useful in advancing prosecution of this application, he is invited to contact applicant's attorney at the number set forth below.

Respectfully submitted,

Date: February 5, 2007

Mikhail Murshak
Reg. No. 58,472
Attorney for Applicant
McCARTER & ENGLISH, LLP
Financial Centre, Suite A304
695 East Main Street
Stamford, CT 06901
(203) 399-5900

CERTIFICATE OF MAILING

I hereby certify that the enclosed Response to Office Action (with referenced enclosures) is being deposited with the United States Postal Service as first class mail, postage prepaid, addressed to the Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 5, 2007.

Dated: February 5, 2007

Mikhail Murshak

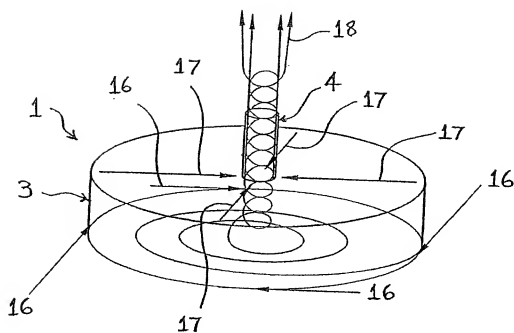


FIG. 4

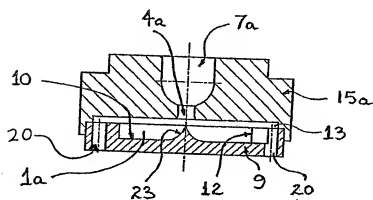


FIG. 5

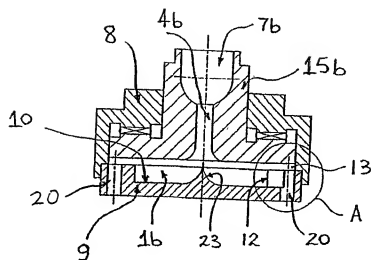


FIG. 6

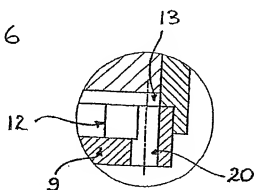


FIG. 7

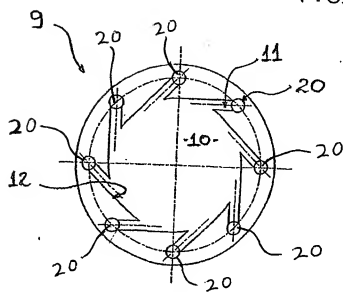


FIG. 8